


EXHIBIT 19


U.S. Patent No. 7,769,050


Claim 1	Identification
1. A method for providing wireless communication, the method comprising:	<p>Regardless of whether the preamble is limiting, Verizon performs a method of providing wireless communication.</p> <p>For example, Verizon owns, provides, and manages Wi-Fi equipment, such as Access Points (i.e., “routers” or “extenders”).</p> <div data-bbox="499 508 1976 641" style="border: 1px solid black; padding: 5px;"> <p>2.4 Equipment. Equipment includes Verizon-provided digital adapters; television set top boxes, digital video recorders video media servers, IP client boxes; peripheral devices; routers; extenders; or optical network terminals. Equipment includes a router or extender you may purchase from Verizon or a third party. Equipment does not include any Other Devices that you attach to use with the Services, or Retired Equipment. The Equipment provided by Verizon for use with the Services may be new or refurbished.</p> </div> <p>https://www.verizon.com/about/terms-conditions/verizon-customer-agreement</p> <div data-bbox="499 721 1955 812" style="border: 1px solid black; padding: 5px;"> <p>9.2 Verizon Ownership. Unless you have purchased your Equipment or we have designated the Equipment as Retired, you acknowledge and agree that at all times ownership of Equipment shall remain with us and that this Agreement allows you to use Equipment only in connection with your lawful receipt and use of the Services. You are responsible for Equipment which is lost, damaged by fire, water, theft or events of Force Majeure.</p> </div> <p><i>Id.</i></p> <p>Verizon Access Points include Wi-Fi 6 (802.11ax) functionality.</p>


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	 <p>What makes the Verizon Router faster?</p> <p>It features Wi-Fi 6E technology, the next-generation wireless standard that provides much higher data rates and increased capacity – almost 3 times faster than Wi-Fi 5.</p> <p>But the Verizon Router offers much more than just a simple speed boost. Its Wi-Fi 6E technology delivers an improved network connection that sets a new standard for performance. So you can connect multiple devices at once with increased range, improved power efficiency and enhanced security.</p>


Claim 1	Identification
	<div><h1>How to Identify Verizon 5G Home Equipment</h1><h2>Verizon Internet Gateway (WNC-CR200A)</h2></div> <p>https://www.verizon.com/support/knowledge-base-220089/</p>

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	<p data-bbox="510 272 1480 305">Verizon Internet Gateway (ASK-NCQ1338 / ASK-NCQ1338FA / ARC-XCI55AX)</p> <div data-bbox="510 350 1465 841">  </div> <p data-bbox="510 857 915 881">This router is a white cube with a circular base.</p> <p data-bbox="495 898 531 930"><i>Id.</i></p>

Claim 1	Identification
	<p data-bbox="516 280 1062 313">Verizon Router (CR1000A) paired with LV65</p> <div data-bbox="516 358 1010 850"></div> <p data-bbox="516 865 1503 922">This router is a long, white rectangle with a circular base. It is typically paired with the LV65 receiver. Please review the support links for both the receiver and the CR1000A router.</p> <p data-bbox="516 930 932 958">The equipment SKU for this router is CR1000A.</p> <p data-bbox="516 966 989 993">→ For additional info visit the CR1000A support page.</p> <p data-bbox="495 995 531 1027"><i>Id.</i></p>

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	<p data-bbox="510 277 842 310">5G Home Router (LVSKR1)</p> <div data-bbox="510 354 1230 776"></div> <p data-bbox="510 789 1289 813">This router is a white cylinder with mesh on the bottom half that looks similar to a speaker.</p> <p data-bbox="510 824 911 849">The equipment SKU for this router is LVSKR1.</p> <p data-bbox="510 860 961 885">→ For additional info visit the LVSKR1 support page.</p> <p data-bbox="495 906 531 938"><i>Id.</i></p>

Claim 1	Identification
	<p>Model G3100</p> <p>The Fios Router is an 11ax Tri-band concurrent Wi-Fi router that supports the latest Wi-Fi technology. It offers seamless roaming, band steering, AP steering, and Self-Organizing Networks (SON) technology. It's also equipped with a third radio to use for Wi-Fi backhaul to the Fios Extender. 11ax Tri-band brings OFDMA and the highest throughput to users.</p> <p>Industrial design</p>  <p><i>Id.</i></p>
1[a] providing a plurality of frequency channels in each of a	Verizon provides multiple access points, for example, within a multi-family or mixed-use development. Using these access points, Verizon provides a plurality of frequency channels in each of a plurality of portions of a service area.


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<p>plurality of portions of a service area,</p>	<div data-bbox="495 261 1797 691">  <p>Verizon Enhanced Communities</p> <p>Verizon Enhanced Communities can help you provide your residents and tenants with the ultimate amenity of Verizon services.</p> </div> <div data-bbox="527 776 783 870"> <p>Residential property owners & developers</p> </div> <div data-bbox="527 886 804 1044"> <p>Today's prospective residents go out of their way to find properties that support their digital lifestyle. Whether you own a single property or an entire portfolio, Verizon provides a solid foundation for high-performance returns. Simply put - your residents will love Verizon. And so will you.</p> </div> <div data-bbox="852 776 1108 870"> <p>Verizon property programs & services</p> </div> <div data-bbox="852 886 1121 1044"> <p>With Verizon your residents have the bandwidth they need to enjoy Whole-Home Wi-Fi, streaming video, low lag gaming, access to special programs, services, and applications. Also, for those of your residents who work from home, reliable, fast and low-latency internet services are a huge plus point.</p> </div> <div data-bbox="1178 776 1367 841"> <p>Commercial properties</p> </div> <div data-bbox="1178 854 1436 1011"> <p>Enhance your commercial property while signing and retaining more tenants, with the future-ready possibilities of Verizon. Your business tenants need the speed of 100% fiber optic network to stay vital in today's competitive environment — and so do you.</p> </div> <div data-bbox="1499 776 1776 870"> <p>Verizon Enhanced Communities Value Program</p> </div> <div data-bbox="1499 886 1766 984"> <p>From current 100% fiber optic internet speeds to future 5G availability and more, see how the Verizon Enhanced Communities Value Program can deliver what your residents demand.</p> </div> <div data-bbox="495 1060 1083 1092"> <p>https://www.verizon.com/home/communities/</p> </div>

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	<p>17.3.8.4.2 Channel numbering</p> <p>Channel center frequencies are defined at every integer multiple of 5 MHz above the channel starting frequency. The relationship between center frequency and channel number is given by Equation (17-27):</p> $\text{Channel center frequency} = \text{Channel starting frequency} + 5 \times n_{ch} \text{ (MHz)} \quad (17-27)$ <p>where</p> $n_{ch} = 1, \dots, 200.$ <p>Channel starting frequency is defined as dot11ChannelStartingFactor \times 500 kHz or is defined as 5 GHz for systems where dot11OperatingClassesRequired is false or not defined.</p> <p>For example, dot11ChannelStartingFactor = 10000 indicates that Channel 0 center frequency is 5.000 GHz. A channel center frequency of 5.000 GHz shall be indicated by dot11ChannelStartingFactor = 8000 and $n_{ch} = 200$. An SME managing multiple channel sets can change the channel set being managed by changing dot11ChannelStartingFactor.</p> <p>802.11-2016</p>
1[b] wherein the plurality of frequency channels are in an unlicensed frequency band	The above frequency channels are in the unlicensed 2.4, 5, or 6 Ghz bands.

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<p>1[c] wherein a same frequency channel of the plurality of frequency channels is provided for use in two or more adjacent portions of the service area; and</p>	<p>The WiFi 6 standard includes the HE spatial reuse operation, in which the same frequency channel of the plurality of frequency channels is provided in two or more adjacent portions of the service area.</p> <p>For example, this is used for different basic service sets (BSS) to operate within a dense environment. Stations (STA) identify whether physical layer protocol data units (PPDUs) originate from within their own BSS when the sets are overlapping.</p> <div data-bbox="499 483 1648 760" style="border: 1px solid black; padding: 5px;"> <p>T.6 BSS color and spatial reuse</p> <p>The BSS color is an identifier of the BSS and is used to assist a receiving STA in identifying the BSS from which a PPDU originates so that the STA can follow the channel access rules to perform spatial reuse. The objective of spatial reuse operation is to allow the medium to be used more often between OBSSs in dense deployment scenarios by the early identification of signals from OBSSs and interference management. See 26.10.</p> </div> <p>802.11ax</p> <div data-bbox="499 833 856 889" style="border: 1px solid black; padding: 2px;"> <p>26.2 HE channel access</p> </div> <div data-bbox="499 894 1732 1138" style="border: 1px solid black; padding: 5px;"> <p>26.2.2 Intra-BSS and inter-BSS PPDU classification</p> <p>A STA shall classify a received PPDU as an inter-BSS PPDU if at least one of the following conditions is true:</p> <ul style="list-style-type: none"> — The RXVECTOR parameter BSS_COLOR is not 0 and is not the BSS color of the BSS of which the STA is a member. </div> <div data-bbox="499 1143 1711 1328" style="border: 1px solid black; padding: 5px;"> <p>A STA shall classify the received PPDU as an intra-BSS PPDU if at least one of the following conditions is true:</p> <ul style="list-style-type: none"> — The RXVECTOR parameter BSS_COLOR of the PPDU carrying the frame is the BSS color of the BSS of which the STA is a member or the BSS color of any TDLS links to which the STA belongs if the STA is an HE STA associated with a non-HE AP. </div> <p>802.11ax</p>

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<p>1[d] mitigating interference associated with external interference sources by making particular channels of the plurality of channels available for use by network nodes disposed in the portions of the service area according to a two tier scheduling strategy,</p>	<p>This mitigates interference associated with external interference sources (which is, for example, the case in a dense deployment scenario) by making particular channels of the plurality of channels available for use by the network nodes according to the two tier scheduling strategy described in limitations 1[e] -1[g].</p> <div data-bbox="499 448 1648 721" style="border: 1px solid black; padding: 10px;"> <p>T.6 BSS color and spatial reuse</p> <p>The BSS color is an identifier of the BSS and is used to assist a receiving STA in identifying the BSS from which a PPDU originates so that the STA can follow the channel access rules to perform spatial reuse. The objective of spatial reuse operation is to allow the medium to be used more often between OBSSs in dense deployment scenarios by the early identification of signals from OBSSs and interference management. See 26.10.</p> </div> <p>802.11ax</p>
<p>1[e] wherein a first tier of the scheduling strategy includes assigning the plurality of frequency channels to each portion of the service area at a relatively slow pace;</p>	<p>The first tier of the scheduling strategy is to assign channels at a slow pace, e.g., when the device is set up or when a channel is scanned for interference.</p> <p>For example, channels are scanned or selected when using Verizon routers.</p>

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	<p>3.2b/ RADIO MANAGEMENT</p> <p>You can configure the channel settings for the 2.4 GHz, 5 GHz and 6 GHz band(s) of your Wi-Fi network.</p>  <p>https://www.verizon.com/supportresources/content/dam/verizon/support/consumer/documents/internet/verizon-cr1000b-router-guide.pdf</p>

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	<p>To view and configure the channel settings:</p> <ol style="list-style-type: none"> 1. From the Advanced menu, select Wi-Fi and then click Radio Management. 2. Click on Settings on the top right-hand side of the Radio Management page to configure the channel scan settings:  <ul style="list-style-type: none"> • Select the Keep my channel selection during power cycle check box to save your channel selection when your Verizon Router is rebooted. • Enable DFS channels during channel scan: DFS channels are enabled by default during channel scans. <p><i>Note: DFS channels are a subset of the 5 GHz network that is shared with radar systems. Some consumer devices do not support these channels and cannot connect to routers using them. Examples include some media streaming devices. Disabling this feature will allow the router to select the best available channel to broadcast on and allow these devices to connect.</i></p> <ul style="list-style-type: none"> • Press Apply Changes to save the changes. <p><i>Id.</i></p>
1[f] wherein a second tier of the scheduling strategy includes allocating the assigned frequency channels resulting from the first tier of the scheduling strategy among the network nodes disposed in each portion of the	<p>The second tier of the scheduling strategy is to allocate the assigned frequency channels resulting from the first tier of the scheduling strategy among the network nodes disposed in each portion of the service area in real-time, through the spatial reuse function.</p> <p>Through the spatial reuse operation, frequency channels are allocated by BSS color (marking PPDU as inter-BSS).</p>

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service area in real-time; and	<p>An example of OBSS PD SR operation is shown in Figure 26-12. In this example, STA SR S2</p> <ul style="list-style-type: none"> — Receives the PPDU from S1 and, if it classifies the PPDU as inter-BSS PPDU, ignores the PPDU using OBSS PD-based spatial reuse with non-SRG OBSS PD, starts the OBSS PD SR transmit power restriction period 1 with TX_PWRmax 1, and decrements its backoff counter until the reception of the PPDU from D1. — Receives the PPDU from D1 and, if it classifies the PPDU as inter-BSS PPDU, ignores the PPDU (if it chooses to do so) using OBSS PD-based spatial reuse with non-SRG OBSS PD, starts the OBSS PD SR transmit power restriction period 2 with TX_PWRmax 2, and decrements its backoff counter until the reception of the PPDU from S1". — Defers during the TXOP S1" set by the intra-BSS PPDU from S1" that belongs to its own BSS and, at the end of the TXOP S1", resumes the decrement of its backoff until the reception of the PPDU from S1'. — Receives the PPDU from S1' and, if it classifies the PPDU as SRG PPDU, ignores the PPDU (if it chooses to do so) using OBSS PD-based spatial reuse with SRG OBSS PD, starts the OBSS PD SR
	<p>transmit power restriction period 3 with TX_PWRmax 3, and decrements its backoff counter until the counter reaches zero because it does not receive the PPDU from D1'.</p> <ul style="list-style-type: none"> — Starts transmitting a PPDU with a TX_PWRmax equal to min(TX_PWRmax 1, TX_PWRmax 2, TX_PWRmax 3) and respects this transmit power restriction until the end of the SR TXOP.
	802.11ax
	<p>26.10.3.2 PSR-based spatial reuse initiation</p> <p>An HE STA identifies an PSR opportunity if the following two conditions are met:</p> <ul style="list-style-type: none"> a) The STA receives a PHY-RXSTART.indication corresponding to the reception of a PSRR PPDU that is identified as an inter-BSS PPDU (see 26.2.2). <p>802.11ax</p>

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1[g] wherein the network nodes are selected for simultaneous use of said particular channels as a function of spatial characteristic groupings of said network nodes.	As a function of the spatial characteristic groupings of said network nodes (i.e., BSS), the network nodes are selected for simultaneous use of particular channels.

